

Investigate: What conditions do woodlice like?

Woodlice are small animals often found under large stones or pieces of rotting wood. You are going to plan an investigation to see if the amount of light affects what woodlice do.

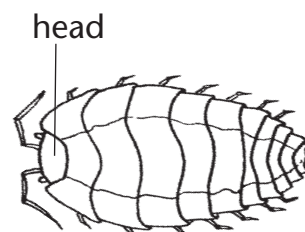


Wash your hands before and after handling woodlice.

Take care with hot lamps.

Equipment

- large container
- woodlice
- bench lamp
- black paper
- gloves or spoon
- metre rule
- scissors
- to handle woodlice
- newspaper



Planning

- 1 What is the aim of your investigation? Write down the question you are trying to answer.
- 2 Discuss in your group how you are going to change the amount of light.
- 3 Decide what aspect of woodlouse behaviour you are going to measure. For example, you might measure how fast they move, or you might count the number of woodlice on the light side of the dish.
- 4 Work out whether anything other than light may affect your results. If so, these are variables and you must include in your plan some way to keep them the same. (*Hint: lamps give out heat as well as light.*)
- 5 Decide what equipment you will need to use and make a list. The equipment list above will give you some ideas.
- 6 Decide how you will set up your equipment. Draw a diagram.
- 7 Think about how to make your results reliable. How many readings will you take, and how many woodlice will you use? Write down your decisions.
- 8 Finish your plan. Make sure it says:
 - what you are going to change (the input or independent variable)
 - what you are going to measure or observe (the outcome or dependent variable)
 - what you will keep the same to make it a fair test
 - the number of measurements you will take
 - whether you will repeat the measurements, and why.
- 9 Check your plan with your teacher. Before you begin to collect evidence, draw a table for your results with headings for each column. If you are doing repeat readings, leave room to calculate averages.

Predicting

- 10 Think about or do some research to find out where woodlice live. Write a sentence to say what you think will happen in your investigation and why. (Try to include a scientific reason.)

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You are going to carry out the investigation you have planned to see whether the amount of light affects what woodlice do.

Equipment (your own list may be different)

- large container
- black paper
- scissors
- woodlice
- gloves or spoon to handle woodlice
- bench lamp
- metre rule
- newspaper



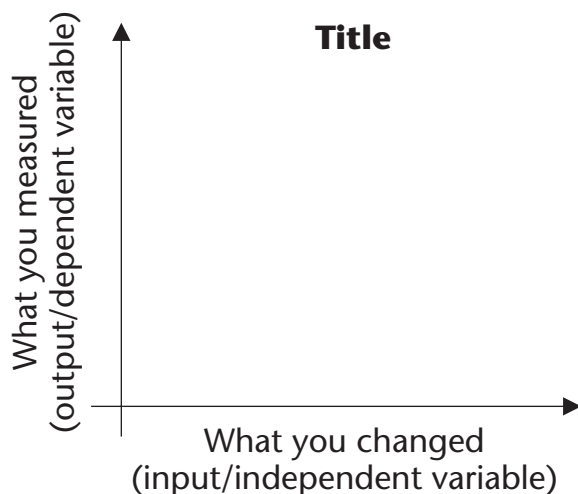
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Obtaining evidence

- 1 Collect some woodlice from the main tank and put them into your container.
- 2 Carry out your plan. Note the different things the woodlice do. Perhaps you can think of an interesting way of recording this.
- 3 When you have finished, return all your woodlice to the main tank, and wash your hands with soap and hot water.

Presenting the results

- 4 Draw a line graph of your results. The variable that you changed always goes along the x-axis. The variable that you measured always goes up the y-axis. Use this sketch to help you draw a graph on graph paper:



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You are going to consider and evaluate the evidence you collected about whether the amount of light affects what woodlice do.

Considering the evidence

Use your graph to help you answer these questions.

- ① What did you change?
- ② What happened to the woodlice after you made this change?
- ③ Why do you think woodlice respond to light in this way? (Explain the pattern scientifically if you can.)
- ④ Do your results agree with your prediction?

Evaluating

- ⑤ Did you get any results that did not fit the pattern you saw?
- ⑥ Did you carry out your plan exactly as it was written? If not, what did you have to change and why?
- ⑦ Could any other variable have affected your results?
- ⑧ Did you have enough results to make a reliable conclusion, or would the results be more reliable if you had a larger sample size?
- ⑨ In what ways could you have improved what you did?